VVSG specifications
Core Requirements and Testing – CRT and Role of TGDC

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Philosophy Behind the Updated Voting Standards

- **Voting standards should include:**
  - General standards, applies to all voting systems (e.g. environmental)
  - System-specific standards, applies to a particular type of voting equipment (e.g. DRE, optical scan have different types of errors and response times at different stages in the voting process)
- **The standards should include optional as well as required standards**
  - The purpose of optional is to include desired capabilities that are not yet available today on existing voting equipment, but which might be if it were known that they were desired
- **The starting point for the updated standards was based upon prior work done**
  - VSS 2002
  - Existing State and Municipality documents
  - IEEE Draft 1583
  - Various comments from Government, Industry, private individuals
- **Standards should be based upon a formal model of the elections process and how the system fits in**
  - Registration
  - Precinct count
  - Consolidation from multiple counting devices
  - Counting devices to jurisdiction-wide counts, including storage and recording voice data
- **The need for a single consistent set of definitions**
  - Reconcile conflicting vocabulary and standards

Major Goals of the Updated Standards

- **Improve voting security, including but not limited to:**
  - Voter can verify vote
  - Software standards for reducing vulnerability of software, and allowing for software to be inspected for logical correctness
- **Improve the human factors, including but not limited to**
  - Where possible consider the needs of the disability in the standard voting equipment and processes, minimize the need for special equipment and processes
- **Improve the testing process**
  - Ensure an unambiguous open, transparent testing process
  - Improved precision, testability, traceability
- **Include measurable outcome-focused standards in addition to equipment-specific standards (what is desired as well as how done)**
  - Black box - what is desired; e.g. voting system performance less than X% errors in tabulation, the ability for a users to verify their vote
  - White box - how things should be done (optical scanner should be able to scan and read sense marks with less than X% error; displays should be font size Y)
  - Allows different voting equipment/systems to be compared
  - Allows someone with a better idea to introduce new more innovative voting systems that can still be tested for compliance and comparison

What it means for a voting system to conform to the voting standard

- Standards should be written sufficiently precise and testable, to allow achievement of compliance testing with traceability
- The standards should be sufficiently unambiguous, that multiple independent testers would know exactly how to test for conformance to the standards, and all would obtain the same test results
- A vendor identifies the profiles to which their system conforms and test certification is then against these profiles
  - Profile is a specialization of the standards for a particular context

The need for transparent, independent testing

- There is a need for an open, transparent testing process
- The testing should be done in an environment that duplicates the environment in which the voting systems are intended to be used
- The testing process and the results should be available for audit by independent observers

The need for Extensibility

- **The standards should be extensible to:**
  - Enable the introduction of new more demanding standards as the technology advances
  - Accommodate new systems that address greater portions of the entire voting process
  - Accommodate new, more innovative systems and processes
  - To address new threats

- **This means that we need to define processes for introducing new versions of the Standards over time, which leads to:**
  - Issues of grandfathering existing solutions for at least some limited time
  - Issues of documenting what profile and version of the standard, the system has been tested as compliant against
  - Determining when and how a system is grandfathered, and when it should be de-commissioned and lose certification

- **The need to accommodate 2006 election timeframes, and to allow for future versions, led to the strategy for developing VVSG – phase1 for 2006, followed by VVSG phase 2 post 2006**